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10/611,977

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Niki Pantelias

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EXAMINER

DAVENPORT, MON CHERI S

ART UNIT

PAPER NUMBER

2609

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|                              |   |  |  |
|------------------------------|---|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/611,977      | <b>Applicant(s)</b><br>PANTELIAS, NIKI |  |
|                              | <b>Examiner</b><br>Mon Cheri S. Davenport | <b>Art Unit</b><br>2442 2609           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 3, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/10/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

This Action is in response to the Application filed July 3, 2003

### *Information Disclosure Statement*

The references listed in the Information Disclosure Statement file on November 10, 2003 have been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-14 rejected under 35 U.S.C. 102(e) as being anticipated by Azenkot et al. (US Patent Number 7,050,419).

Regarding **Claim 1** Azenkot et al. disclose a method for reusing Synchronous Code Division Multiple Access (S-CDMA) parameters to define Time Division Multiple Access (TDMA) minislot size, comprising the steps of (**see column 29, line 43, Minislot Mapping**):

determining S-CDMA parameters to create a S-CDMA-type upstream channel descriptor (UCD) message by a CMTS (**see column 30, lines 56-58, use parameters in the UCD message to calculate the number of time counts per SCDMA frame**);

forwarding said S-CDMA-type UCD message to a modem operating in TDMA (CM, cable modem) mode by said CMTS (**see column 30, lines 50-64, CM must maintain a set of counter identical to the CMTS, the minislot number and the frame number in the UCD message keeps the CMs frame synchronized**);

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calculating a TDMA minislot size by said modem using said S-CDMA parameters **(see column 30, lines 1-3, minislot is  $2 \times K$  where  $K$  is the number of spreading intervals)**;

calculating a frame duration value and a minislots per frame value; using said frame duration value and said minislots per frame value to maintain a minislot counter and a frame counter **(see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every  $2^{23}$  counts for this sampling interval)**; and

constructing a relationship between a system timestamp counter, said minislot counter and said frame counter via a timestamp snapshot **(see figure 12b, timestamp snapshot, column 30, lines 51-55, timestamp snapshot is composed of timestamp count, minislot number and frame number)**.

Regarding **Claim 2** Azenkot et al. discloses everything claimed as applied above (see claim 1). In addition, the method includes:

wherein said step of calculating said frame duration value and said minislots per frame value, said step of using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter, and said step of constructing a relationship between said system timestamp counter, said minislot counter and said frame counter via said timestamp snapshot is performed by both said CMTS and said modem **(CM, cable modem) (see column 30, lines 65-67, the CM and CMTS, must each implement a 32-bit timestamp counter, a 32-bit minislot counter and a 8-bit frame counter)**;

Regarding **Claim 3** Azenkot et al. discloses everything claimed as applied above (see claim 1). In addition, the method includes:

wherein said step of determining S-CDMA parameters comprises the steps of :

determining a modulation rate parameter **(see column 31, line 18, signaling rate defined)**;

determining a spreading intervals per frame ( $K$ ) parameter **(see column 31, lines 19-20, the number of spreading intervals per frame)**;

determining a number of active codes parameter **(see column 31, line 21, the number of active codes)**; and

determining a codes per minislot ( $C_{ms}$ ) parameter **(see column 31, lines 19, the codes per minislot)**.

Regarding **Claim 4** Azenkot et al. discloses everything claimed as applied above (see claim 3). In addition, the method includes:

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wherein said minislots size is calculated by multiplying said K parameter by said Cms parameter( **see column 31, lines 60-61, minislots where each minislots contains  $c*k$  (spreading intervals) symbols**).

Regarding **Claim 5** Azenkot et al. discloses everything claimed as applied above (see claim 3). In addition, the method includes:

wherein said frame duration value is calculated by multiplying a duration of spreading interval parameter by said K parameter(**see column 31, lines 34-36, the number of spread intervals and the signaling rate defines the frame duration**).

Regarding **Claim 6** Azenkot et al. discloses everything claimed as applied above (see claim 3). In addition, the method includes:

wherein said minislots per frame value is calculated by dividing said number of active codes parameter by said Cms parameter (**see column 31, lines 55-58, c codes per minislots, p number of active codes, s minislots per frame,  $s = p/c$** )

Regarding **Claim 7** Azenkot et al. discloses everything claimed as applied above (see claim 1). In addition, the method includes:

wherein said step of using said frame duration value and said minislots per frame value to maintain said minislots counter and said frame counter comprises the steps of (**see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislots counter, once every  $2^{23}$  counts for this sampling interval**):

incrementing said minislots counter by the number of said minislots per frame value each time a frame duration number of timestamp counts passes( **see column 31, lines 1-4, minislots counter may be incremented by the number of minislots in the frame once per frame interval**) ; and

incrementing said frame counter by 1 each time said frame duration number of timestamp counts passes(**see column 30, lines 41-43, CMTS must maintain a frame counter**) .

Regarding **Claim 8** Azenkot et al. disclose a system for reusing Synchronous Code Division Multiple Access (S-CDMA) parameters to define Time Division Multiple Access (TDMA) minislots size, comprising (**see figure 11, overall system showing the CMTS and cable modem circuits that implement the synchronization**):

means for determining S-CDMA parameters to create a S-CDMA-type upstream channel descriptor (UCD) message by a CMTS( **see column 30, lines 56-58, use parameters in the UCD message to calculate the number of time counts per SCDMA frame**) ;;

means for forwarding said S-CDMA-type UCD message to a modem operating in TDMA mode(**CM, cable modem**) by said CMTS( **see column 30, lines 50-64, CM**

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**must maintain a set of counter identical to the CMTS, the minislot number and the frame number in the UCD message keeps the CMs frame synchronized);**

means for calculating a TDMA minislot size by said modem using said S-CDMA parameters(see column 30, lines 1-3, minislot is  $2 \times K$  where  $K$  is the number of spreading intervals);

means for calculating a frame duration value and a minislots per frame value (see figure 11, section 168, Cable Modem termination system);

means for using said frame duration value and said minislots per frame value to maintain a minislot counter and a frame counter(see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every  $2^{23}$  counts for this sampling interval); and

means for constructing a relationship between a system timestamp counter, said minislot counter and said frame counter via a timestamp snapshot(see figure 12b, timestamp snapshot, column 30, lines 51-55, timestamp snapshot is composed of timestamp count, minislot number and frame number).

Regarding Claim 9 Azenkot et al. discloses everything claimed as applied above (see claim 8). In addition, the system includes:

wherein said means for calculating said frame duration value and said minislots per frame value, said means for using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter, and said means for constructing a relationship between said system timestamp counter, said minislot counter and said frame counter via said timestamp snapshot is provided by both said CMTS and said modem (CM, cable modem) (see column 30, lines 65-67, the CM and CMTS, must each implement a 32-bit timestamp counter, a 32-bit minislot counter and a 8-bit frame counter);

Regarding Claim 10 Azenkot et al. discloses everything claimed as applied above (see claim 8). In addition, the system includes:

wherein said means for determining S-CDMA parameters comprises:

means for determining a modulation rate parameter(see column 31, line 18, signaling rate defined);

means for determining a spreading intervals per frame ( $K$ ) parameter(see column 31, lines 19-20, the number of spreading intervals per frame);

means for determining a number of active codes parameter(see column 31, line 21, the number of active codes); and

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means for determining a codes per minislot (Cms) parameter(**see column 31, lines 19, the codes per minislot**).

Regarding **Claim 11** Azenkot et al. discloses everything claimed as applied above (see *claim 10*). In addition, the system includes:

wherein said minislot size is calculated by multiplying said K parameter by said Cms parameter( **see column 31, lines 60-61, minislots where each minislot contains  $c*k$ ( spreading intervals) symbols**).

Regarding **Claim 12** Azenkot et al. discloses everything claimed as applied above (see *claim 10*). In addition, the system includes:

wherein said frame duration value is calculated by multiplying a duration of spreading interval parameter by said K parameter(**see column 31, lines 34-36, the number of spread intervals and the signaling rate defines the frame duration**).

1 Regarding **Claim 13** Azenkot et al. discloses everything claimed as applied above (see *claim 10*). In addition, the system includes:

wherein said minislots per frame value is calculated by dividing said number of active codes parameter by said Cms parameter(**see column 31, lines 55-58, c codes per minislots, p number of active codes, s minislots per frame,  $s = p/c$** ).

Regarding **Claim 14** Azenkot et al. discloses everything claimed as applied above (see *claim 8*). In addition, the system includes:

wherein said means for using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter comprises(**see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every  $2^{23}$  counts for this sampling interval**):

means for incrementing said minislot counter by the number of said minislots per frame value each time a frame duration number of timestamp counts passes( **see column 31, lines 1-4, minislot counter may be incremented by the number of minislots in the frame once per frame interval**); and

means for incrementing said frame counter by 1 each time said frame duration number of timestamp counts passes(**see column 30, lines 41-43, CMTS must maintain a frame counter**).

#### **Citation of Pertinent Prior Art**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Azenko et al.** (US Patent Publication Number 2004/0190544) see figure 1.

**Azenko et al.** (US Patent Number 7,002,899) method and apparatus to improve  
scdma headroom.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Mon Cheri S. Davenport whose telephone number is  
571-270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. -  
5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone  
number for the organization where this application or proceeding is assigned is 571-  
273-8300.

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USPTO Customer Service Representative or access to the automated information  
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MD/md

  
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